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ERAGROSTIS PEREGRINA A FREQUENT PLANT ABOUT PHILADELPHIA.

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PROFESSOR K. M. WIEGAND, in his recent study of *Eragrostis peregrina*,[1] found (exclusive of his own Ithaca material) a totality of seven specimens at the Gray Herbarium and the New York Botanican Garden, representing the occurrence in Europe, Asia, and North America of this little known weed. That two of these specimens came from the vicinity of Philadelphia — Lancaster, Pennsylvania and Mickleton, New Jersey — was a fact at once suggestive to a Philadelphian.

Only a year or two previously an occasion had arisen for me to dip into the *Purshii-pilosa* problem of *Eragrostis*. It had been concluded that our most common representative of this troublesome alliance could be separated out, with a very fair degree of satisfaction, as *E. Purshii*, but what remained as the supposed *E. pilosa* was certainly no homogeneous series. Old World material of what apparently was considered this latter species by European botanists was readily matched by quite a number of collections from the local area. But, very different superficially from *E. pilosa*, there had remained still other forms — which, perforce, for want of a better solution, had been left, as found, under this species.

The diagnostic characters of *E. peregrina* were so clearly brought out by Professor Wiegand, that, as his paper was read, there came a recollection of one of the forms which had failed of being matched

[1] Wiegand, RHODORA, xix. 93 (1917).

by Old World material — a rather low, erect plant with smallish, stiff, notably dense panicles. It was confidently felt that specimens of *E. peregrina* would be found in the local herbarium of the Philadelphia Academy. A prompt examination of this collection appeared to verify almost overwhelmingly this sanguine expectation.

It was seen that at least as early as the 60's the plant had already appeared in Philadelphia. (The Mickleton and Lancaster specimens had been collected in the late 80's.) — Specimens were found from the Martindale Herbarium labelled "Byberry, Pa. 1864." — presumably from the northern part of Philadelphia County. Two sheets by C. E. Smith, undated but probably of this same early period, had been collected in Philadelphia, one labelled "Streets of the city" and the other "Mr. Longstreth's place." E. Diffenbaugh had obtained it in 1867 on waste-ballast soil below the Navy Yard. Of these older botanists, C. E. Smith and Isaac Martindale had referred the plant to *Eragrostis pilosa* without comment, but it was of interest to note that the discerning eye of Elias Diffenbaugh had recognized it as apparently differing from both *E. pilosa* and *E. Purshii*. A note of some length has been preserved with his specimens, in which he says:

"This is the grass I called *E. Purshii ?* in my list. After careful comparison with descriptions in Gray and in Chapman I am inclined to think it is not that plant. The pedicels are too *short*, and lateral nerves of lower palet not prominent enough. It cannot be *E. pilosa* as described and figured by Gray: for that plant has the lower palet *broadly ovate* and *obtuse*. It is, most likely, a southerner, and am inclined to think not described in either of the above works. E. D.

"Nov. 9, 1867"

In the summer of 1898 A. F. K. Krout secured it three times within the city limits: on Wissahickon Creek; at Cramp's [Ship Yard]; and at 13th. and Susquehanna Avenue, noting it between bricks on pavement. Between 1908 and 1910 it was obtained by other collectors from more outlying points about Philadelphia: to the south, from Delaware City, in the state of Delaware, by C. S. Williamson; to the west, at Wayne, in Delaware County, Pennsylvania, by E. B. Bartram; to the north, at Fort Washington, in Montgomery County, Pennsylvania, by myself.

The Porter Herbarium produced two sheets from Lancaster, Pennsylvania: one from the Herbarium of Mrs. A. F. Eby collected in 1898; the other, by A. A. Heller in September, 1889, doubtless

duplicate material in actuality (from a joint trip by Small and Heller) of the specimen cited by Professor Wiegand.

Search at the University of Pennsylvania was rewarded by an old specimen from Fairmount Park, Philadelphia, from the Herbarium of Isaac Burk — not dated but probably about the 60's.[1]

Professor Wiegand's interest was obtained in this Philadelphia material and through his kindness it has received his verifying determinations.

During June it was possible to identify with certainty an *Eragrostis* that for several seasons had been noted regularly appearing in the roadside gutters near my home — and thus at once begin a fuller acquaintance with *Eragrostis peregrina* almost at my own door. Here in Ashbourne and Elkins Park (contiguous suburbs nine miles north of Philadelphia) the plant occurs at quite a number of stations, invariably between the bricks used in the gutter construction on some of the newer and more improved roads. At some places where there are as yet no houses and the gutters are not kept weeded, it has become locally abundant and quite conspicuous, but, though well distributed, in general the street cleaning reduces its occurrence to small and scattered colonies. Immediately south of Elkins Park station is a large colony of many plants growing on the railroad ballast beside the Philadelphia & Reading tracks. Along a foot-path within the railroad right-of-way it is noticeable here and there in small colonies.

At Fort Washington, about sixteen miles out of Philadelphia along the Reading, the 1908 collection was verified. The plant appeared to be rather rare along the roadside in the village. Careful exploration of the main tracks and several sidings by the railroad station failed to reveal its presence in these habitats.

During July an opportunity occurred of spending a day botanizing in Bucks County, Pennsylvania with Dr. C. D. Fretz — a name especially associated with the plants of that county. My travelling to join him led me still further north on the Philadelphia & Reading. While waiting for a connecting train at Lansdale, I found *E. peregrina* to be locally abundant along the Bethlehem Branch of

[1] Here in the University Herbarium was also found among Mr. Robert Le Boutillier's Japanese Plants characteristic material of *Eragrostis peregrina*. It will be recalled that Professor Wiegand notes that its native country is not yet known. The general region of the islands of Japan being the only area in the at present known distribution of the species where apparently the plant is not definitely recorded as introduced, one naturally wonders whether it might possibly be indigenous there.

the railroad, just north of the south-bound station, growing on the edge of the railroad ballast and on the lawn turf, as well as in neglected spots between the tracks. At Doylestown (ten miles beyond Lansdale) it was again seen. Here it was noted as very common in the railroad yards by the station — at times scattered but often in close, solid colonies. In parts of the town it was found to be a not infrequent weed, occurring on the pavement- and the gutter-borders of the smaller side-streets. During the day the species was mentioned to Dr. Fretz and its characters described. Below Carversville his discriminating glance detected the plant along the roadside, and near Lumberville a great abundance of it was found locally in an exsiccated roadside gutter.

Most of my field work during 1917 being concentrated upon the Middle District of the southern half of New Jersey, a greater number of stations have been noted from this area than elsewhere about Philadelphia. Nearly all of these localities are so definitely associated with the railroads that it will not be inappropriate to group them in such connection.

To the north, observations were made at Bordentown around the Pennsylvania Railroad station. *E. peregrina* was recorded as frequent in this immediate vicinity, occurring chiefly among the cinders upon freight sidings and at the ends of several short spurs used by the shifting-engines — in general on the less used tracks which do not carry the through trains of the passenger service, and which accordingly are allowed to become weedy. Being plentiful about the freight station its occurrence upon the adjacent roadsides was readily anticipated.

Along the main line of the Pennsylvania extending eastward from Camden to the coast the species was observed at a number of widely separated localities.

At Masonville (about fifteen miles out of Camden) in the immediate vicinity of the railroad station, the freight station, and the wagon road, *E. peregrina* was found to be very abundant. There is a lengthy siding here and on the spot where freight cars are commonly dropped and teams drive up, so dominant was the species that, when seen in vigorous, fresh growth, at a distance the ground between the ties and near by presented the appearance of a lawn — and essentially all of the greenness was due to this species.

At Pemberton, over a third of the distance across the state, a few

plants were discovered in the fine cut-stone forming the concrete-curbed platform about the railroad station. Search failed to disclose the species on either the tracks or the adjacent roadside.

During early autumn a center was made at Beach Haven, and in travelling back along the railroad to botanize at various points a plant or two was detected from the train at Barnegat, on the freight siding opposite the Pennsylvania Railroad station — so characteristic-looking that the identity was felt to be almost certain. Investigation showed *E. peregrina* to be fairly frequent about the tracks, apparently occurring only on the sandy railroad ballast, however, and not on the roadsides. Barnegat is also the terminus of a branch of the New Jersey Central. On the freight sidings of the Central tracks, near by but not connected with those of the Pennsylvania Railroad, the plant was found to be a dominant weed, growing luxuriantly in the open as well as in the shade under standing cars, the station platform, and taller weeds.

Barnegat having produced the plant, the terminus of the Pennsylvania system at Beach Haven on Long Beach Island was thought likely to show another locality. The tracks and the railroad yard here are upon a considerable fill, largely of rather clean cinders, and situated almost entirely over salt marsh. Very few weeds of any kind were about the tracks and no *E. peregrina.* Further search was rewarded by finding it about South Street and the Boulevard in the central part of Beach Haven. Here it was noted as locally frequent on the sidewalks, but most abundant in the hard, exsiccated "gutter" region of the gravelled streets.

Specimens having been seen from the ballast-grounds of Philadelphia, a sharp lookout was kept for *E. peregrina* when another quest took me to the long neglected ballast region of Kaighn's Point, Camden. Within sight of the Kaighn's Point Ferry it was almost immediately detected along the weedy sidewalks of Kaighn Avenue. At this spot it was apparently rather rare, but along Ferry Avenue, not far distant, it grew luxuriantly on waste ground, associated with other widely distributed weeds.

It is readily distinguished along the tracks of the Reading system near Kaighn's Point, as one goes out by train from this terminal, but it soon drops from sight as the railroad yards and waste places are left behind, and the natural county is reached.

Extending out from Kaighn's Point for about a dozen miles, in a

general southerly direction, is the Gloucester Branch of the Atlantic City Railroad. During a number of trips back and forth over this line there was ample opportunity, while the train stopped at the numerous stations, to make car-window observations for *E. peregrina.* This is a single track road and at many of the stations there are small sidings for the accommodation of freight cars. Several localities were mentally recorded with confidence and one was properly verified by collection — at Blenheim. Here it was noted as very common about the station, being equally well distributed over the cinder ballast of both the main track and the siding.

Along the West Jersey and Seashore Railroad (of the Pennsylvania system) the plant was detected once on the Atlantic City Division and twice on the more southerly line of the Cape May Division.— A few miles below Haddonfield, at Ashland, the species was collected on the siding by the railroad station. The ballast here is very fine, hard, and compact. Very few species have been able to obtain a foothold but plants of *E. peregrina*, though all small, were frequent. In passing Woodbury by train numerous colonies of an *Eragrostis* with the habit of *E. peregrina* were observed on several occasions in the railroad yards south of the Pennsylvania station. Investigation at a later date verified the occurrence here of the species. It was seen to be widely distributed over the railroad ballast, being most abundant on the sidings, in weedy spots, and about piles of débris. Along adjacent streets it has become a conspicuous weed in the gutters and on the borders of the sidewalks. At Sewell (several miles beyond Woodbury) it was noted in an interesting habitat. Although occurring sparingly on the driveway up to the station, it was found most frequent about the railroad station hydrant, chiefly on the well-trodden area where one stands to drink.

On the Salem Branch of the Pennsylvania Railroad lies Mickleton where *E. peregrina* was collected by Benjamin Heritage in 1887. Speculation on its possible persistence induced a search at this locality on one of the last trips of the season. By this time its favorite habitat had become so well known that the freight siding by the railroad station was at once sought and almost immediately revealed the presence of the plant. Although the scrutiny of the tracks was not overthorough, the species appeared to be rather infrequent, at least in this exact spot. On this Branch two new localities were noted — Swedesboro and Harrisonville. Swedesboro is one of the more impor-

tant points on this line and consequently has a considerable system of sidings about the station. A very hasty exploration made at twilight during a few spare moments before train arrival showed its occurrence on at least one of the tracks — very abundant, both inside and outside the rails. Being driven back to Harrisonville station a half-hour before train time by a heavy rain which proved to be only a passing shower, the time was occupied in investigating the weeds on the railroad ballast — with slightly more profit than usual. The dominant plant on the freight siding immediately back of the station proved to be *E. peregrina*, in many spots forming particularly large, luxuriant colonies between the rails and ties.

A day's exploration in late July with Mr. J. P. Otis in upper Newcastle County, Delaware, produced further evidence on its occurrence in another direction. Mr. Williamson's collection at Delaware City was to be recalled, and as my train pulled into Wilmington the very weedy railroad yards at once suggested the presence of the species. Just outside the Pennsylvania station it was soon found, growing between the paving and the houses. In this situation and at the edge of the curbing it appeared to be a frequent plant of the ill-kept streets of this portion of the city. Later in the day it was picked up in an exsiccated roadside gutter south of Newport, and at Newport station it was found to be very abundant upon the nearby sidings, about the station platform, the railroad pump, and along adjacent roads and paths, covering solid areas to the exclusion of other species.

The occurrence of the plant within Philadelphia itself had been so well established by other collectors that no especial effort was made to verify these collections. But when the eye had become trained to the detection of the plant, completely to overlook it became quite impossible. It was even found to occur only a step away from the Philadelphia Academy, growing plentifully on the outer portion of the ancient brick pavement of Cherry Street near 19th Street. In travelling to and from my home, large solid colonies of apparently *E. peregrina* had been noted in the railroad yards by Huntingdon Street station on the Philadelphia & Reading. Opportunity was found between trains to investigate this spot. These yards are kept mostly quite clean but on one side, among several little used tracks, railroad débris, rails, spikes, etc., they are allowed to become weedy. Here *E. peregrina* is undisturbed and has become locally abundant.

In his assiduous exploration of Lehigh County, Mr. Harold W.

Pretz has extended the Pennsylvania distribution considerably northward in the local region. His collection is from the stone ballast of the Lehigh Valley Railroad near Slatington station.

From a comparison of the most outlying stations it will be seen that we now know the species to be fairly well distributed about Philadelphia over a radius of approximately sixty miles to the north, east, and west. The southernmost collection is at a distance of about thirty-five miles but there is every reason to believe that the plant occurs throughout southern New Jersey, and probably also considerably further south in Delaware than Delaware City.

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PRICKLY LETTUCE.

L. H. Pammel.

In the fifth edition of Dr. Gray's Manual of Botany, published in 1868, this statement is made with reference to Prickly Lettuce (*Lactuca Scariola*) "Waste grounds and roadsides Cambridge, Mass., Adv. from Europe." In a paper on the distribution of some weeds in the United States, etc., which I[1] published in 1891 the statement is made that it was first observed near Hovey's Garden in 1863–64. In the next edition of Gray's Manual by Watson and Coulter[2] the distribution is given "waste grounds and roadsides, Atlantic states to Missouri and Minnesota." In the next edition by Robinson and Fernald[3] the *L. Scariola* L. is said to occur as follows; "roadsides, railway ballast, etc., s. N. E. to O., Mo., and Ky., chiefly westw.," but even then less common than the following variety *integrata* Gren. & Godr. which is said to occur in "waste grounds and roadsides, across the continent; westw. an abundant and pernicious weed."

I have seen Prickly lettuce for a great many years. The plant so common in St. Louis in 1889, at Madison in 1883, La Crosse, Wisconsin, in 1886 and in Ames, Iowa, and elsewhere in Iowa in 1889 was the variety *integrata*. I saw the true *L. Scariola* common everywhere in California and the Salt Lake basin in 1898.

During the past season I have observed the species abundant at the

[1] Proc. Ia. Acad. of Sci. **2**: 109. [2] 6th. Ed. 304, 1889. [3] 7th ed. 866, 1908.